

Before closing this paper, the writer would emphasize the fact that Castor-oil is not a crop for extensive cultivation as a pure crop on a large scale. One of the reasons for this is that it produces normal crops only under such conditions as are quite congenial to it, and one such condition is *shade* during at least one part of the day not overhead shade, but side shade from large trees growing to the East or the West of the field.

A planter of very long experience, in a letter to the writer, says: "Castor-oil is a peculiar plant. I reared it in Africa. Grown wild, it yields well; cultivated in plantations, it hardly yields at all; moreover the oil is of irregular and inconstant density."

The same is to some extent observable in the Economic Gardens for the plants growing in the full sun—their growth is backward, their flowering is poor—whilst the trees which receive, either in the morning or in the afternoon, the shade from large neighbouring trees are showing quite good crops.

E. MATHIEU.

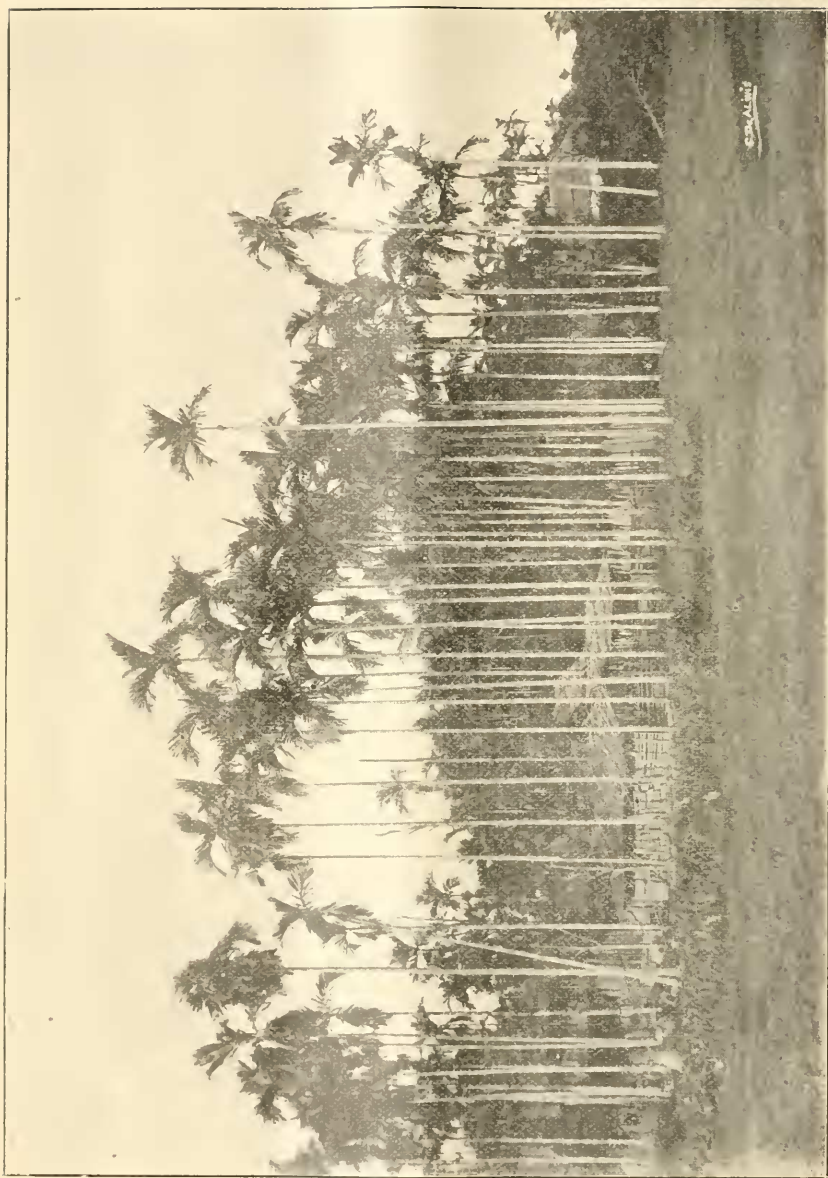
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Betel.

One of the first things noticed by the newcomer to the East is the red appearance of the lips and teeth of the natives together with their habit of chewing. He may also observe, particularly in country districts, that many of the natives carry a small tin or receptacle of some description about with them. A peep into this tin would bring to light various things but chief amongst them would be found some betel nut and betel leaves. These form the chief constituents of the mixture, known as "betel," which is chewed by many of the Eastern peoples. In towns the mixture may be seen ready made up for sale.

It is intended to give a brief outline of these two ingredients namely Betel Nut, the seeds of *Areca Catechu*, L., and Betel Leaf, the leaf of *Piper Bette*, L. The production of the former particularly, is essentially a native industry and is interesting on this account.



BETEL-NUT, ARECA CATECHU.

BETEL NUT.

ARECA CATECHU, L., the Betel Nut Palm (see accompanying plate).
General Description—

A palm which grows to a good height attaining in some cases 60 ft. Its stem is straight and cylindric, and ringed by the scars of fallen leaves. It is greyish in colour and is generally covered with lichens. The stem is very slender in comparison with its height but very strong nevertheless. The crown of leaves is rather small having a diameter of about 8 ft. The leaves are pinnate which places it in the feather-leaved section of Palms. They vary in length from 4 to 6 ft. and in the young state have a fairly straight leaf rhachis which forms an acute angle with the stem, but in older leaves the leaf-rhachis is curved. The colour of the foliage is yellowish green in plants grown in the sun and light green in plants growing in partial shade. The leaflets are more or less rigid giving the leaf a flat surface. Spathes are produced below the leaves and soon burst disclosing the much branched spadix which is pendulous and on the branches of which are produced the flowers. As the Palm is unisexual the female flowers are borne at the base of the branches while the male flowers are borne on spikes at the extremities of the branches and are arranged in two rows on the spike. In the plate facing p. 296 the two types of flowers can be easily distinguished the large unopened ones at the bases being the female and the tiny white crowded specks being the open male flowers. On the same plate will be seen a fine bunch of fruits which when they first appear are small and green. They very soon swell up and change colour becoming orange or orange scarlet when quite ripe and are from 1 to 2 inches in length when fully grown. The fruit consists of a fleshy pericarp surrounding the seed or betel nut. A fuller description of this palm will be found in the *Gardens' Bulletin* Vol. II, p. 252.

HISTORY.

Mention has been made of the "betel nut" for centuries, the earliest reference to it by a European being found in the writings of Marco Pole (1298 A.D.). Since that date the nut has been mentioned by many writers. Of its great antiquity there can be no doubt as mention of it has been found in manuscripts written in ancient Eastern languages. The nut has its place in the ceremonial and symbolic life of the people being offered as a polite indication of the termination of ceremonial visits. It is also symbolic of festivity and essential at the betrothal ceremony. It has held the same important position from earliest times.

HABITAT.

The exact locality in which this plant first grew is unknown as it has been found for centuries, cultivated over almost the whole of tropical Asia. It prefers a moist atmosphere as is shown in India where it is found growing only in localities which are notably

moister than other parts of that country. It does not grow at a very high elevation and is seldom found above 3000 ft. In Malaya it naturally thrives owing to the humidity of the atmosphere and is generally met with growing in compounds and occasionally in plantations. Almost every native compound in Malaya has its few "betel nut" palms which often serve a double purpose, to supply nuts and also to serve as a support for the "betel leaf."

PREPARATION OF NUTS.

Several varieties of the nut are met with in the market, the best class being those which have not undergone any preparation. These may be termed the natural or first class, and are simply dried in the sun before sending to the market. The artificial or second class includes all those varieties which have been prepared in some way before being placed on the market. The usual method of preparation is to boil the nuts either whole or cut into pieces. The latter operation is sometimes performed after boiling but not always. The value of the nuts largely depends on these factors and the natural class generally commands the highest prices in the market.

ARECA CATECHU OR KOSSA.

This is the only well known preparation extracted from the "betel nut." It is obtained in the following fashion. A quantity of scraped nuts are placed in water in a large copper pot; a handful of lime is added and the whole boiled for a time. The nuts are then removed and the same liquid is used for several subsequent boilings of nuts adding water when required. Eventually a thick red-brown substance is produced which is allowed to dry in the sun. This substance is Kossa and it is used to flavour and colour inferior nuts. So far as is known it has no particular value except for use in the above manner.

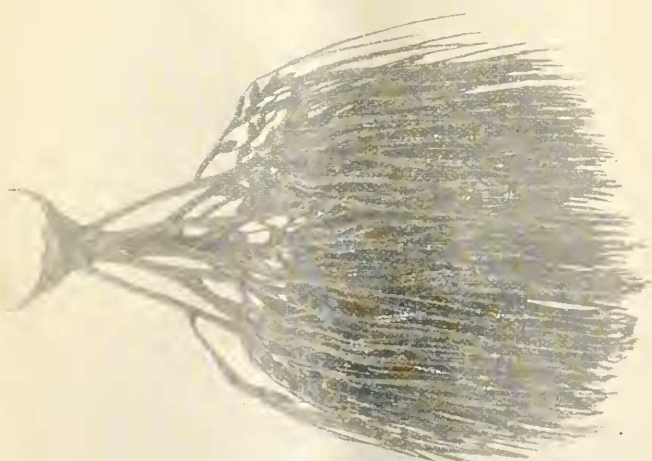
USES.

The chief uses of the "betel nut" are—

- (a) Masticatory.
- (b) Medicinal.

(a) Masticatory.—As previously indicated the chief use of the "betel nut" is for chewing purposes. It is sometimes chewed by itself but generally a small piece is rolled up in a "betel leaf" together with a little lime, catechu or kossa, cardamoms and cloves. Prepared in this way it may be seen in most native towns particularly in Indian Bazaars and shops. It is supposed to stimulate digestion and is also claimed to prevent dysentery and generally to strengthen the stomach.

(b) Medicinal.—The young nut possesses astringent properties and is used in the treatment of bowel complaints and ulcers. If used in powdered form it is very effective in the treatment of dogs for worms. The natives put it to many uses and with very good results.



FRUIT AND FLOWER OF BETEL-NUT TREE, ARECA CATECHU.

